Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Stephen A. Owens
Director

August 16, 2004

Mr. Adrain Taylor
Vanguard Properties, Inc.
6263 North Scottsdale Road
Suite 205
Scottsdale, Arizona 85250

RE: Cessation of Hydraulic Control, APP # 101704, Florence Project

Dear Mr. Taylor:

The Arizona Department of Environmental Quality (ADEQ), Water Permits Section-Mining Unit (WPS-MU) has conducted a review of the April 21, 2004, *Proposed Cessation of the Hydraulic Control at the Florence In-Situ Test Field*, prepared by Brown and Caldwell. Based upon a review of the document, ADEQ will allow the permittee to discontinue the hydraulic control of the in-situ mine block for 90 days.

ADEQ issued an Aquifer Protection Permit (APP) on June 6, 1997. The permit was issued for the development and construction of an in-situ copper mine and solvent extraction and electrowinning plant. Prior to the start-up of in-situ mining, the permittee was required to demonstrate a 90-day hydraulic control test on the in-situ mine block. The hydraulic control test required the injection of 2 percent sulfuric acid into the test block, the subsequent recovery of acidic solution and rinsing of the test mine block.

The test required the installation of four injection wells, nine recovery wells and seven observation wells into the oxide ore body. The hydraulic test and the injection of acid began on November 8, 1997. Throughout the test, the injection and recovery rates were monitored along with conductivity and water levels. Approximately 16.8 million gallons of acidic solution were injected during the test period through the four injection wells. After 90 days, the test was terminated on February 10, 1998. After the test period ceased, the injection wells were converted to recovery wells, and have been pumping groundwater since February 1998.

The permittee elected to delay the construction of the in-situ mine project due to depressed copper prices. The permit was amended to reflect the temporary cessation status of the facility on December 5, 2001. Since that time, the permittee has continued a care and maintenance level

program on the facility, which includes maintaining hydraulic control and the rinsing of leachate residues from the test mine block. To date, approximately 123 million gallons of leachate and groundwater have been extracted from the test block and transported to a double lined impoundment for evaporation.

Various rounds of groundwater sampling were completed during the rinsing of the mine block. Based on the results of the sampling, the permittee submitted a request to ADEQ on April 21, 2004, to cease the hydraulic control and to permanently close the test mine block. The requirements necessary to close an in-situ mine block are referenced in Part 1, Section H, Part 2 of the APP.

Based on the information provided in the report, which includes meeting sulfate concentrations in all test wells and meeting background groundwater concentrations, ADEQ will allow the permittee to discontinue the hydraulic control of the in-situ mine block for 90 days. At the end of the 90 day period, the groundwater wells must be analyzed for sulfate. If the sulfate concentrations are less than the permit limit of 750 ppm, the permittee can cease all rinsing activities. If the sulfate concentrations in any of the groundwater monitoring wells exceed the permit requirement of 750 ppm, ADEQ will require the continuation of maintaining hydraulic control and rinsing of the mine block. ADEQ may suggest other closure activities or additional groundwater sampling based on the results of the post-90 day sampling.

Should you have any questions, please contact me toll free in Arizona at (800) 234-5677 extension 4663, or (602) 771-4663.

Sincerely,

Barry Rechtorovich, Project Manager
Mining Unit, Water Permits Section

MU04-0137